

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) An engine exhaust cleaning device comprising:
a particulate matter filter configured to collect particulate matter from exhaust gas in an exhaust passage;
a regeneration processing section configured to execute regeneration processing that raises temperature of the particulate matter filter to remove the particulate matter collected in the particulate matter filter by combustion of the particulate matter collected in the particulate matter filter; and
an idling speed raising section configured to set a target engine idling speed to a higher value than a normal engine idling speed when a deceleration of a vehicle is detected during the regeneration processing of the particulate matter filter by the regeneration processing section to raise the engine idling speed when the engine idles during the regeneration processing ~~of the particulate matter filter by the regeneration processing section~~.
2. (Currently Amended) ~~An~~ The engine exhaust cleaning device ~~recited in claim 1, further~~ comprising:
a particulate matter filter configured to collect particulate matter from exhaust gas in an exhaust passage;
a regeneration processing section configured to execute regeneration processing that raises temperature of the particulate matter filter to remove the particulate matter collected in the particulate matter filter by combustion of the particulate matter collected in the particulate matter filter;
an idling speed raising section configured to raise the engine idling speed when the engine idles during the regeneration processing of the particulate matter filter by the regeneration processing section; and

a fuel cut recovery engine speed processing section configured to raise a fuel cut recovery engine speed during the regeneration processing of the particulate matter filter by the regeneration processing section.

3. (Currently Amended) ~~An~~ The engine exhaust cleaning device recited in claim 1, wherein comprising:

a particulate matter filter configured to collect particulate matter from exhaust gas in an exhaust passage;

a regeneration processing section configured to execute regeneration processing that raises temperature of the particulate matter filter to remove the particulate matter collected in the particulate matter filter by combustion of the particulate matter collected in the particulate matter filter; and

an idling speed raising section configured to raise the engine idling speed when the engine idles during the regeneration processing of the particulate matter filter by the regeneration processing section.

the idling speed raising section being is further configured to raise the engine idling speed for a prescribed amount of time when the engine idles during the regeneration processing of the particulate matter filter, and after the prescribed amount of time has elapsed, returns the engine idling speed to a normal idling speed value, when the engine idles during the regeneration processing of the particulate matter filter.

4. (Original) The engine exhaust cleaning device recited in claim 1, wherein the regeneration processing section includes an accumulated particulate quantity detecting section configured to detect the quantity of particulate matter that has accumulated within the particulate matter filter to determine regeneration timing to regenerate the particulate matter filter when an accumulated particulate quantity reaches a first prescribed quantity.

5. (Original) The engine exhaust cleaning device recited in claim 4, wherein the accumulated particulate quantity detecting section includes

a filter pressure difference detecting sensor configured to detect a pressure difference across the particulate matter filter,
an exhaust gas flow rate detecting section configured to detect an exhaust gas flow rate, and
an accumulated particulate quantity computing section configured to compute the accumulated particulate quantity that has accumulated in the particulate matter filter based on the filter pressure difference detected by the filter pressure difference detecting sensor and the exhaust gas flow rate detected by the exhaust gas flow rate detecting section, and
the regeneration processing section is further configured to determine the regeneration timing to regenerate the particulate matter filter by comparing the accumulated particulate quantity computed by the accumulated particulate quantity computing section with the first prescribed quantity.

6. (Original) The engine exhaust cleaning device recited in claim 4, wherein the regeneration processing section is further configured to end the regeneration processing of the particulate matter filter by the regeneration processing section by comparing the accumulated particulate quantity with a second prescribed quantity that is less than the first prescribed quantity .

7. (Original) The engine exhaust cleaning device recited in claim 1, wherein the regeneration processing section is further configured to increase the temperature of the exhaust gas by adjusting at least one of the following: a timing of a main fuel injection used for controlling the engine torque, a timing and quantity of a post fuel injection executed after the main fuel injection, a cross sectional area of an air intake passage opening, a supercharging pressure produced by a supercharger, and a flow rate of exhaust gas recirculated from the an exhaust passage to an air intake passage.

8. (Original) The engine exhaust cleaning device recited in claim 2, wherein the idling speed raising section is further configured to raise the engine idling speed for a prescribed amount of time when the engine idles during the regeneration processing of

the particulate matter filter, and after the prescribed amount of time has elapsed, returns the engine idling speed to a normal idling speed value, when the engine idles during the regeneration processing of the particulate matter filter.

9. (Original) The engine exhaust cleaning device recited in claim 8, wherein the regeneration processing section includes an accumulated particulate quantity detecting section configured to detect the quantity of particulate matter that has accumulated within the particulate matter filter to determine regeneration timing to regenerate the particulate matter filter when an accumulated particulate quantity reaches a first prescribed quantity.

10. (Original) The engine exhaust cleaning device recited in claim 9, wherein the accumulated particulate quantity detecting section includes
a filter pressure difference detecting sensor configured to detect a pressure difference across the particulate matter filter,
an exhaust gas flow rate detecting section configured to detect an exhaust gas flow rate, and
an accumulated particulate quantity computing section configured to compute the accumulated particulate quantity that has accumulated in the particulate matter filter based on the filter pressure difference detected by the filter pressure difference detecting sensor and the exhaust gas flow rate detected by the exhaust gas flow rate detecting section, and
the regeneration processing section is further configured to determine the regeneration timing to regenerate the particulate matter filter by comparing the accumulated particulate quantity computed by the accumulated particulate quantity computing section with the first prescribed quantity.

11. (Original) The engine exhaust cleaning device recited in claim 9, wherein the regeneration processing section is further configured to end the regeneration processing of the particulate matter filter by the regeneration processing section by comparing

the accumulated particulate quantity with a second prescribed quantity that is less than the first prescribed quantity .

12. (Original) The engine exhaust cleaning device recited in claim 8, wherein the regeneration processing section is further configured to increase the temperature of the exhaust gas by adjusting at least one of the following: a timing of a main fuel injection used for controlling the engine torque, a timing and quantity of a post fuel injection executed after the main fuel injection, a cross sectional area of an air intake passage opening, a supercharging pressure produced by a supercharger, and a flow rate of exhaust gas recirculated from the an exhaust passage to an air intake passage.

13. (Currently Amended) An engine exhaust cleaning device comprising:
particulate matter collecting means for collecting particulate matter from exhaust gas in an exhaust passage;

regeneration processing means for executing regeneration processing that raises temperature of the particulate matter collecting means to remove the particulate matter collected in the particulate matter collecting means by combustion of the particulate matter collected in the particulate matter collecting means; and

idling speed raising means for setting a target engine idling speed to a higher value than a normal engine idling speed when a deceleration of a vehicle is detected during the regeneration processing of the particulate matter filter by the regeneration processing means, and for raising the engine idling speed when the engine idles during the regeneration processing ~~of the particulate matter collecting means by the regeneration processing means.~~